

ABSTRACT OF THE DISCLOSURE

A classifier for separating coarse particles from a stream of gas and particles discharged from a vertical mill includes a generally cylindrical outer casing, an inner casing, a ring, and a wheel. The outer casing has a vertical axis and a vertically oriented sidewall disposed on the mill. The inner casing is arranged within the outer casing, providing an annular passageway between the inner casing and the sidewall through which the stream of gas and particles flows upwardly. The ring is supported about the axis and includes a plurality of circumferentially-spaced static vanes forming angled ports for imparting rotational motion to the stream of gas and particles flowing through the ports for centrifugally separating a portion of coarse particles, thereby producing a remaining stream of gas and particles. The wheel is supported for rotation about the vertical axis and includes a plurality of circumferentially-spaced radially extending blades for accelerating the rotational motion of the remaining stream for separating another portion of coarse particles, thereby producing a final stream of gas and particles to be discharged from the classifier. The portion of coarse particles and the other portion of coarse particles are discharged from the classifier through an outlet for separated particles.

DC_MAIN 157825